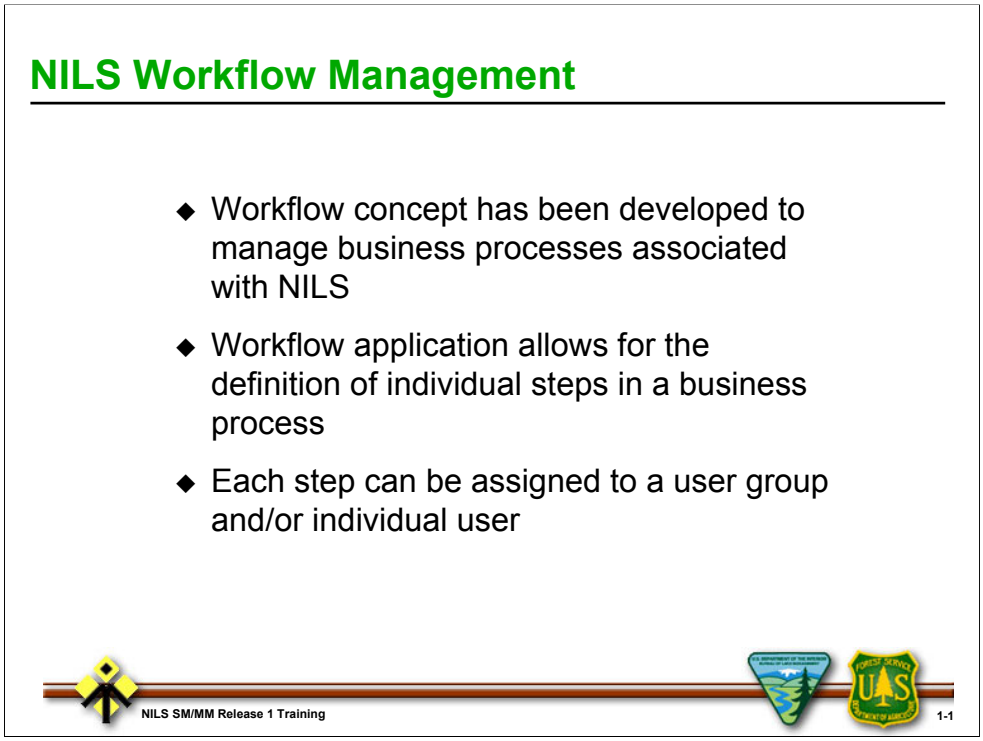
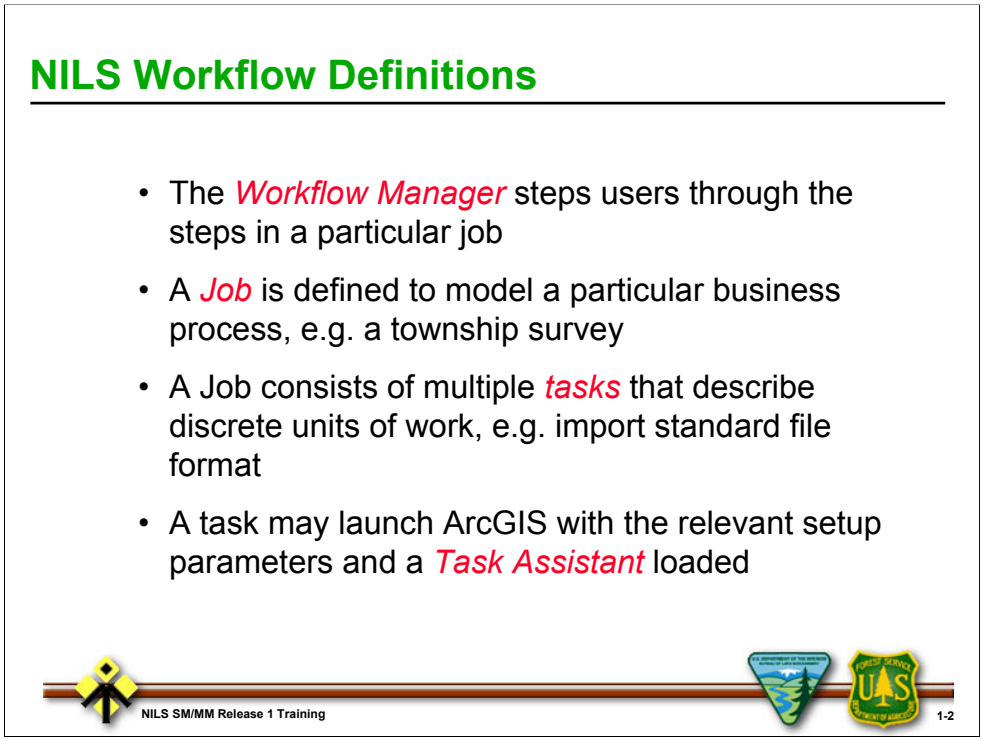


NILS Workflow Manager

Workflow management is designed as a web interface that steps the user through a series of steps to complete a specific business process. As the user completes each step, a log of their transactions is maintained. The workflow manager can help to standardize and track the way in which the business processes are undertaken.



NILS Workflow Definitions

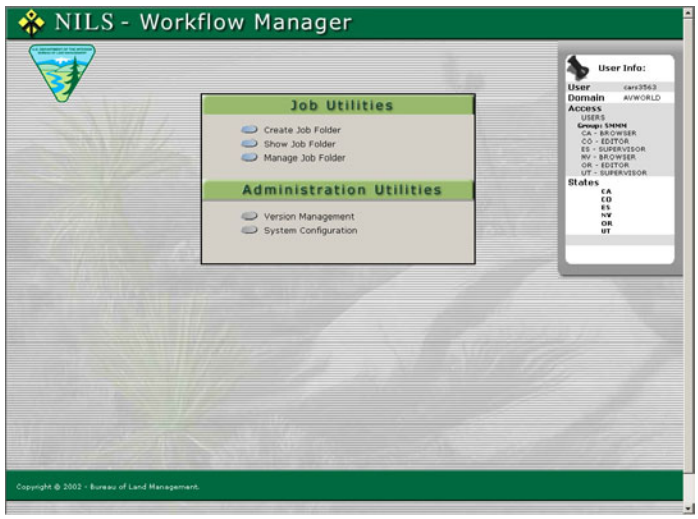
•The Workflow Manager steps users through the steps in a particular job.

•A Job is defined to model a particular business process, e.g. a township survey.

•A Job consists of multiple tasks that describe discrete units of work, e.g. import standard file format.

•A task may launch ArcGIS with the relevant setup parameters and a Task Assistant loaded.

Workflow Manager

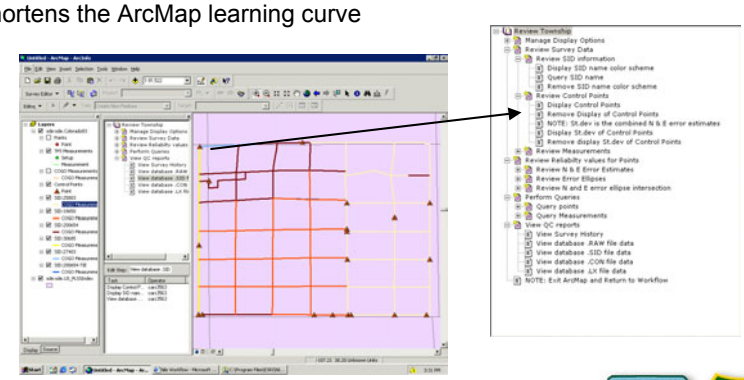


Workflow Manager

The workflow manager runs in a browser. At Phase 1, workflows have been developed for importing and validating the the Standard File Format (SFF) and Legal Description (LD) data.The job status functions include administrator tools for supervisors to review pending jobs and assign responsibility to individual users. Users can also search for existing jobs and initiate work using these functions.

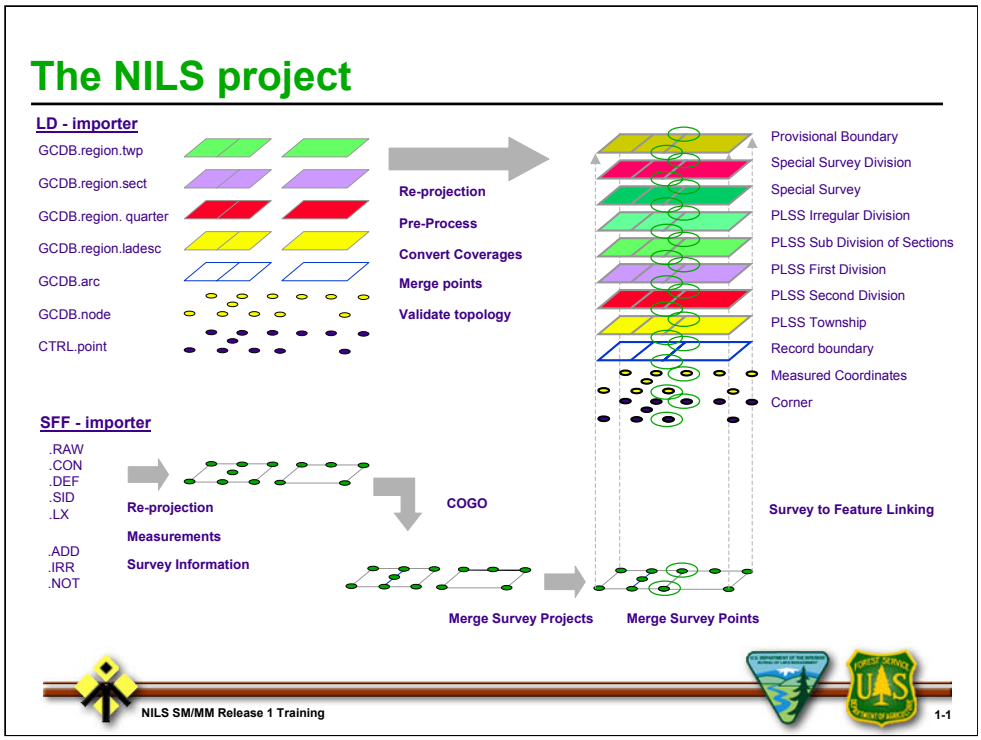
NILS Task Assistant

- Task assistant guides GIS users through steps in ArcMap for querying and maintaining data
- Provides consistency in the completion of data management tasks
- Shortens the ArcMap learning curve



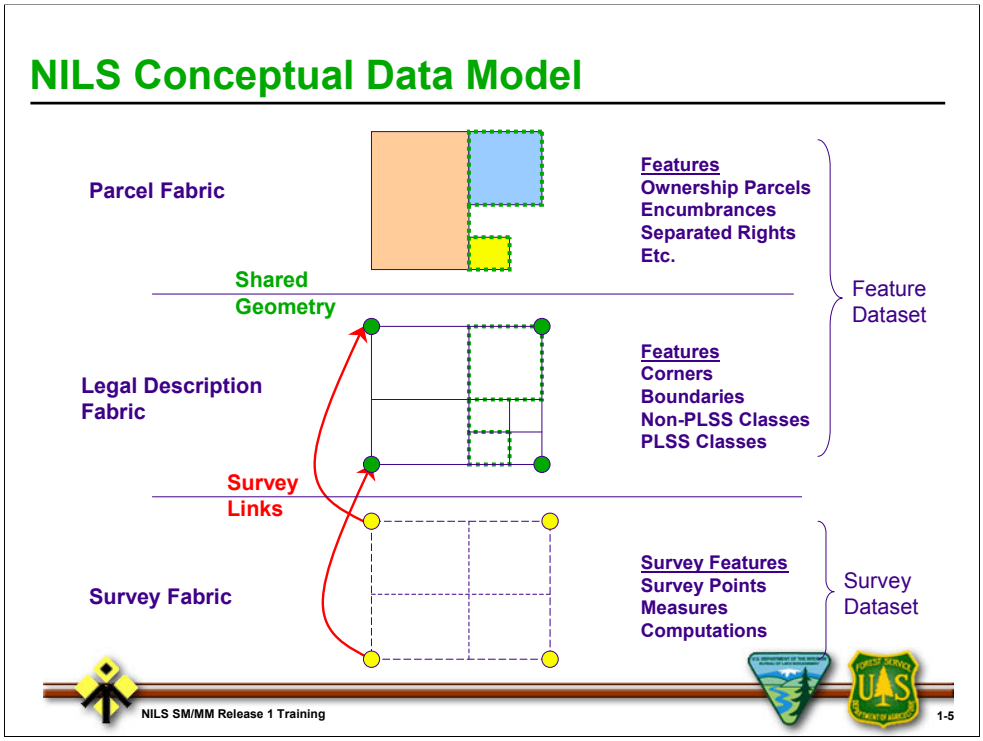
The NILS Task Assistant

The task assistant works inside ArcGIS and guides users through specific GIS activities.



The NILS project

This diagram shows the Standard File Format (SFF) Importer converting survey data from many file format into the geodatabase. The Legal Description (LD) Importer uses the survey points to create the legal description layer containing the Public Land Survey System (PLSS) land description. The legal description layer is served to the public over the Internet as part of a seamless data coverage for the U.S.



NILS Conceptual Data Model

The NILS conceptual data model that starts with a survey fabric – this is where the user stores survey points, measurements and computations that are managed by Survey Analyst. These data are equivalent to what the GMM flat files currently store.

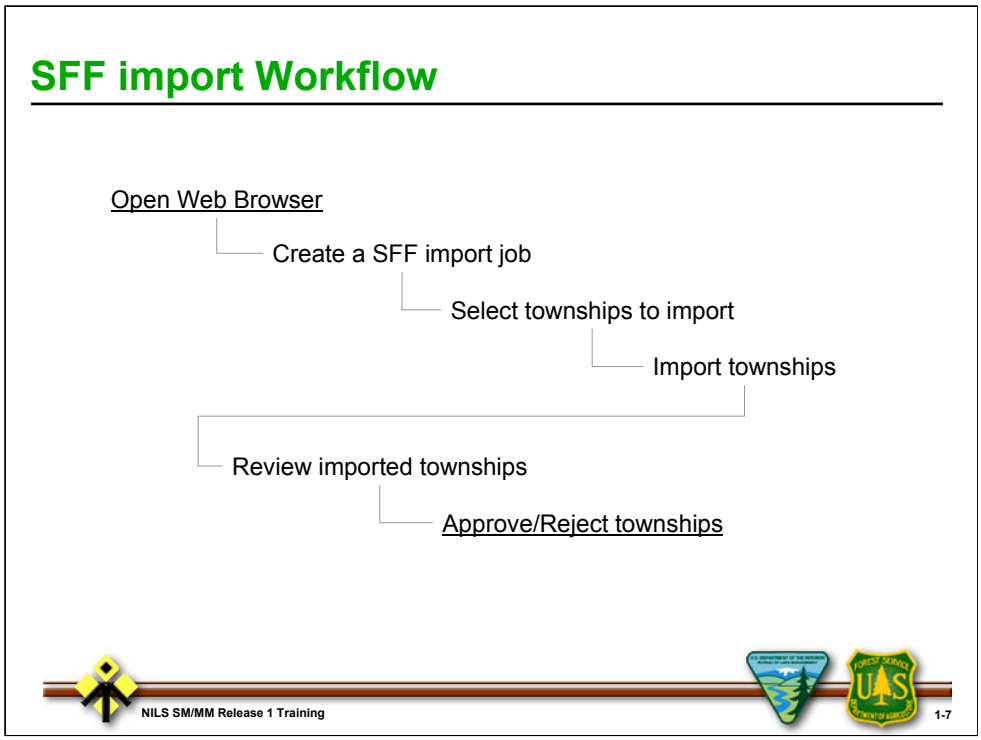
From these data, legal description polygons are derived. These are equivalent to the current GCDB coverage data and store townships, sections, and aliquot parts as well as the metes and bounds polygons. The LD fabric are the building blocks for the data about ownership and rights in the parcel fabric. In other words, users will create parcel data derived from the legal description polygons that are defined in the LD fabric.

An important distinction between these and the existing GCDB data is that with survey analyst we can link survey points to the vertices in the LD fabric and manage the vertical integration between the two. In other words, if the user updates the survey data through an adjustment, they can select the linked features and update them to match the revised survey geometry.

Through the use of topology and its notion of shared geometry, the user can keep the LD fabric and derived parcels synched up.

The survey features live in a new kind of geodatabase dataset called a “survey dataset.” The LD fabric lives in a “feature dataset.”

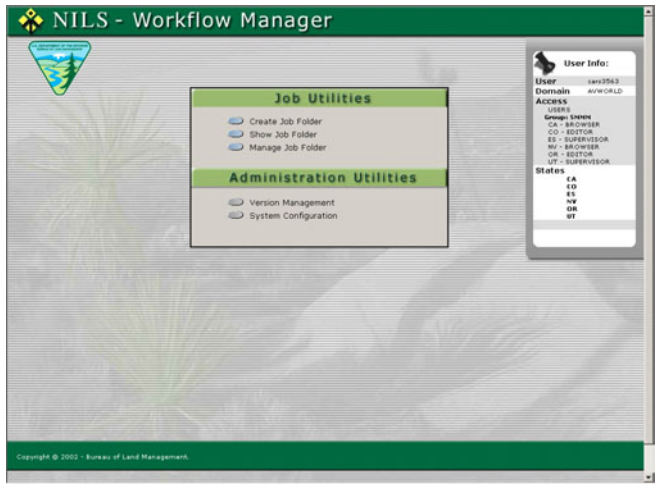
SFF Importer Walkthrough



SFF import Workflow
•Open Web Browser
•Create a SFF import job
•Select townships to import
•Import townships
•Review imported townships
•Approve/Reject townships

Workflow – Main menu

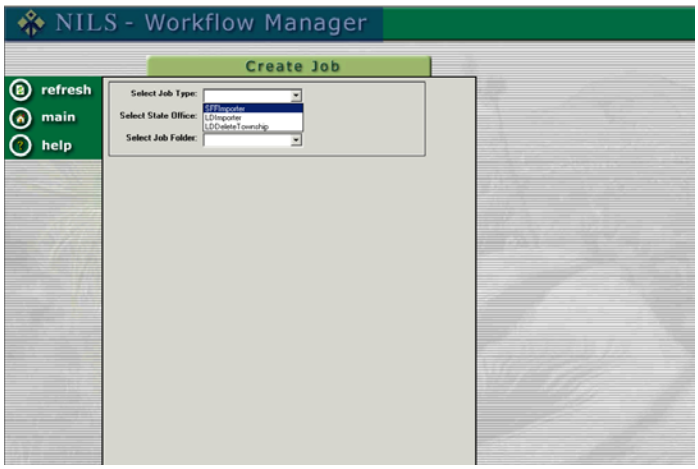
- Web based interface
- User information
- Activities
- Administration



Workflow – Main menu

This is the main menu of the Workflow Manager.

SFF import Workflow – Create job

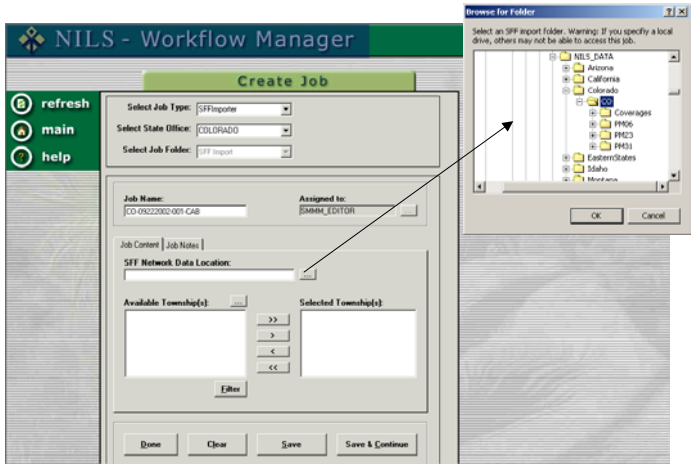


Create Job

If the user selects Create Job Folder from the main screen, they will begin the job creation by selecting the type of job. Job types at Phase 1 include SFF Importer, LD Importer, and LD Delete Township.

SFF import Workflow – Browse

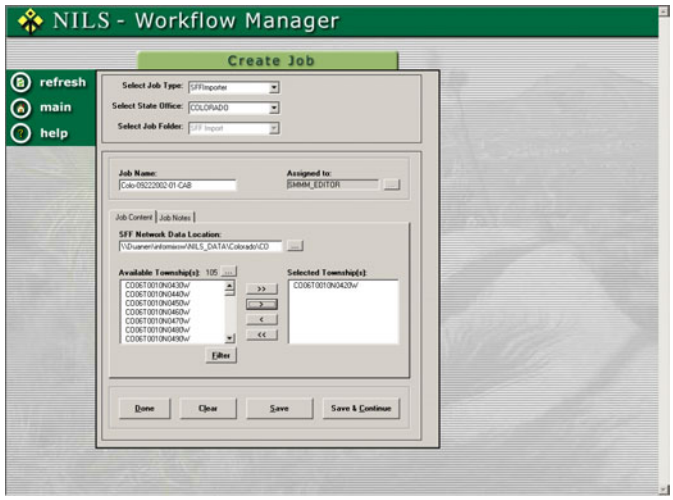
- Select job type
- Data location
- Set job name
- Select townships
- Assign job
- Notes



Browse for folders

When creating a job for importing SFF data, the user selects the townships that he/she wishes to import as part of the job.

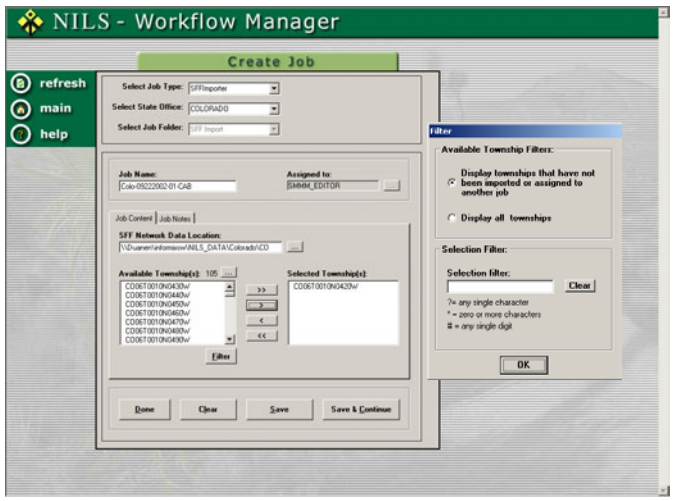
SFF import Workflow – SFF importer



Create Job

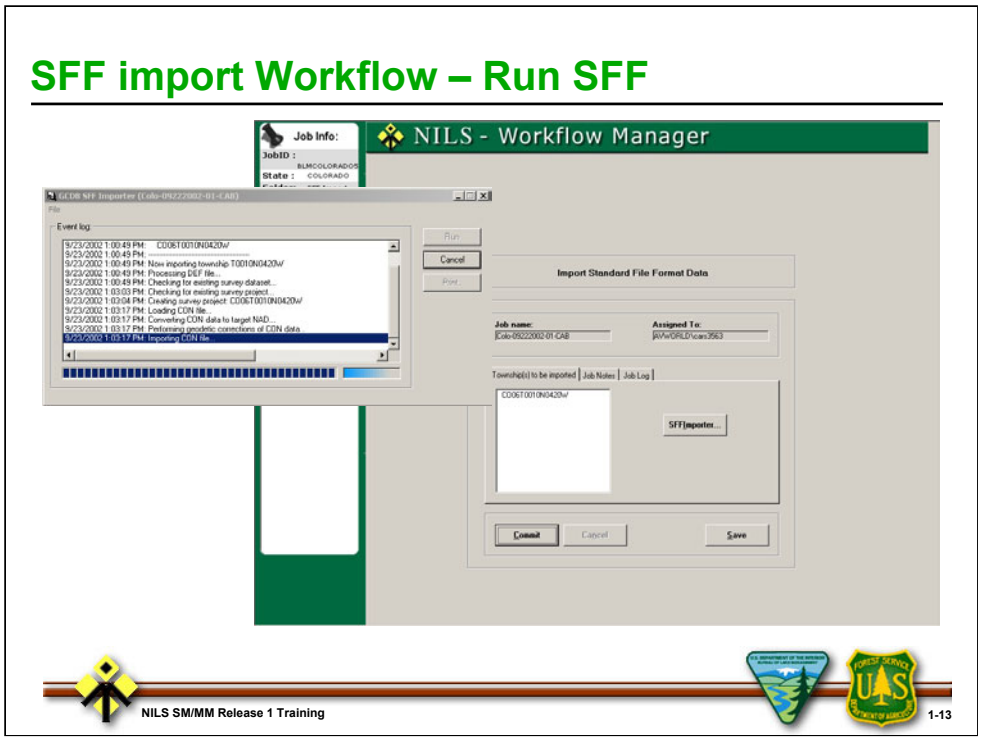
In this example, a single township is selected for importing and is listed in the right pane.

SFF import Workflow – Filter



Filter

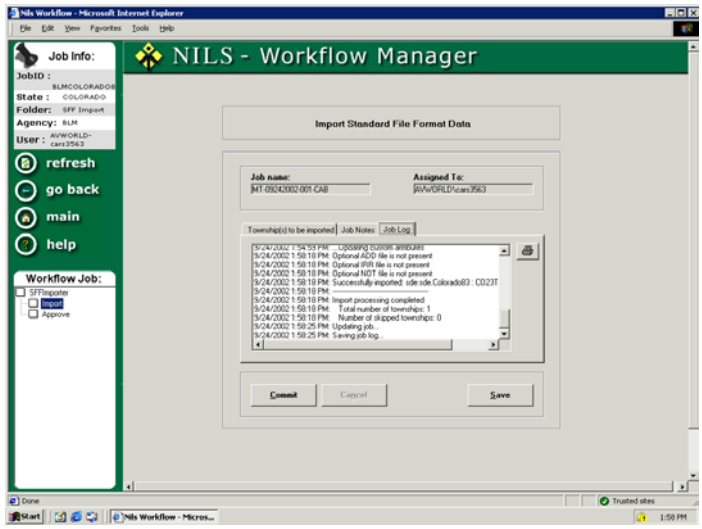
The user can filter the list of available townships using wildcards or specific search strings.



Run SFF

The SFF importer processes the WinGMM flat files and provides a log of the import steps and any errors that may occur.

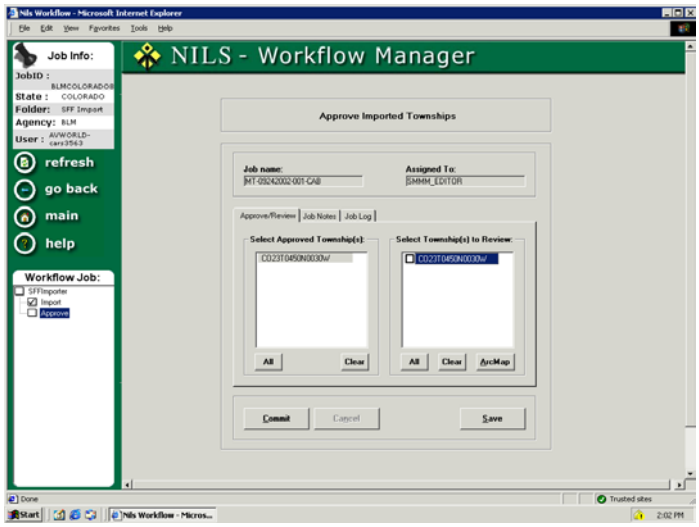
SFF import Workflow – Job Log



Job Log

The job log is saved with the job and can be reviewed at any stage in the job lifecycle.

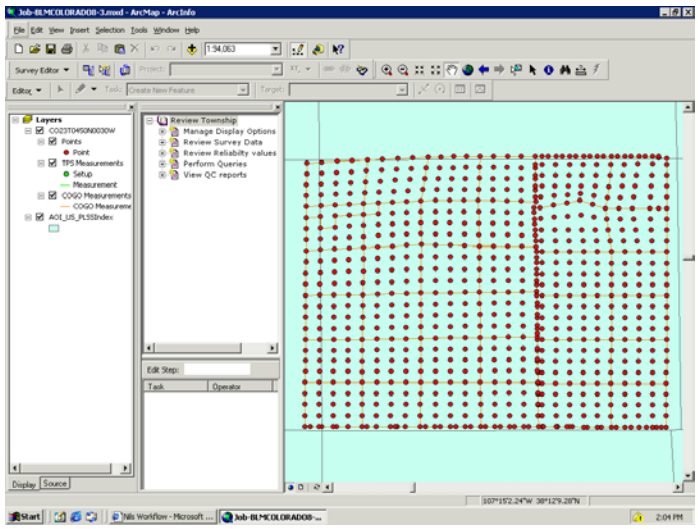
SFF import Workflow – Launch ArcMap



Launch ArcMap

Once the townships have been imported, the user will launch ArcMap to review the imported data.

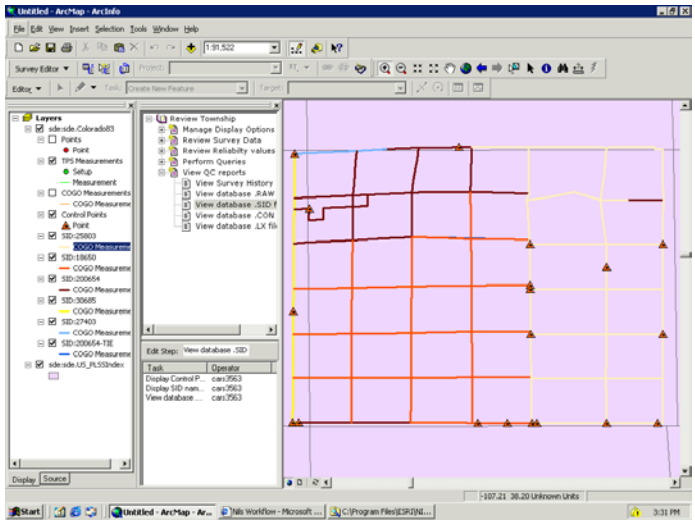
SFF import Workflow – ArcMap Task flow



ArcMap Task flow

ArcMap will open zoomed to the appropriate area of interest. The required task assistant will also be open in the map document.

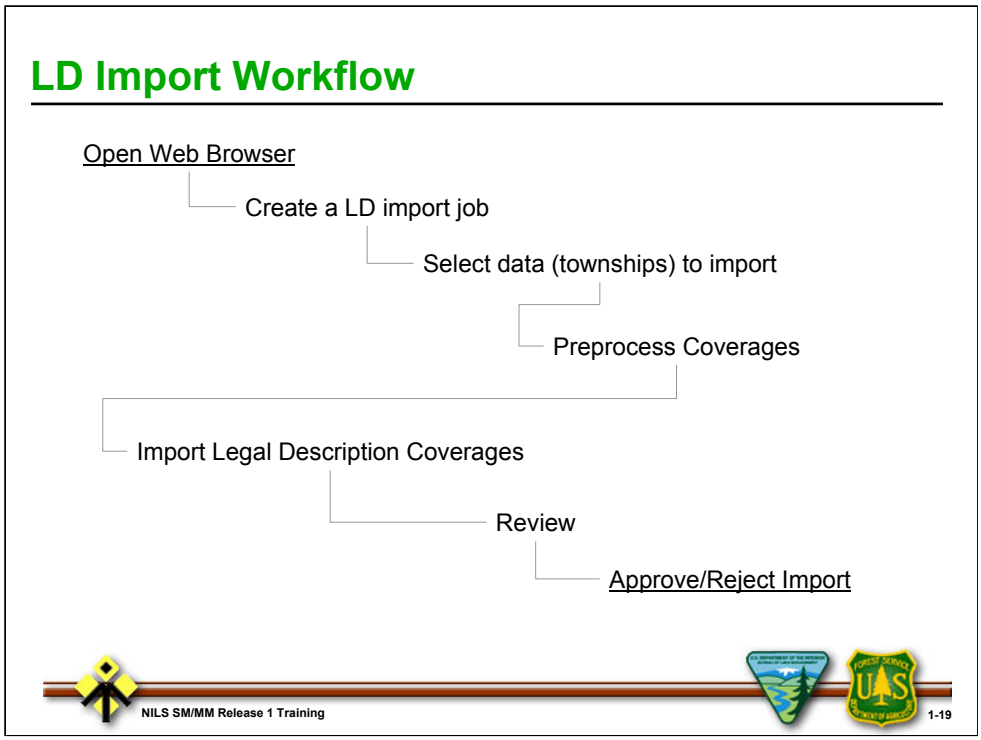
SFF import Workflow – Tasks



Tasks

As the user steps through tasks, the task assistant provides instructions and a log tracks their progress.

LD Importer Walkthrough



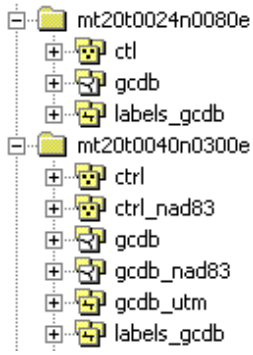
LD Import Workflow

The LD Importer Job process imports GCDB coverages and provides the following steps for reviewing and validating the imported data:

•Open Web Browser
•Create an LD import job
•Select data (townships) to import
•Preprocess Coverages
•Import Legal Description Coverages
•Review
•Approve/Reject Import

LD Importer Workflow – Preprocess Coverages

- Re-projects the gcdb and the ctl coverages to NAD83
- Creates unique PointIDs for control points and coordinates
- Creates Quarter Section region
- Adds default values for:
  - Date Created
  - Created By
- Adds Township field to Ladesc

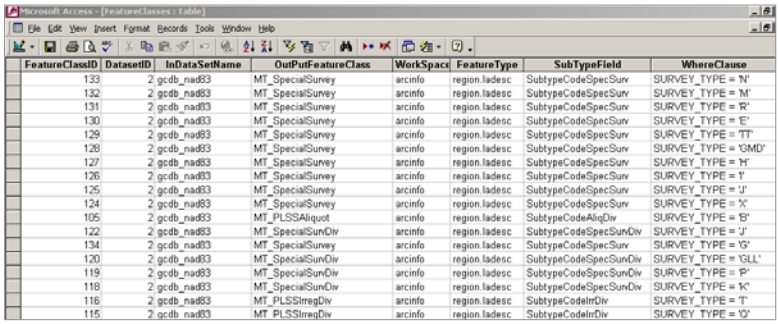


Preprocess Coverages

Before importing the coverages, a series of preprocessing steps are run on the coverages to populate new fields and aid in the migration to the new geo-database model.

LD Importer Workflow – Import Legal Description Coverages

- Uses a template to map the attributes in the coverages to the attributes in the LegalDescriptionAndOwnership feature dataset



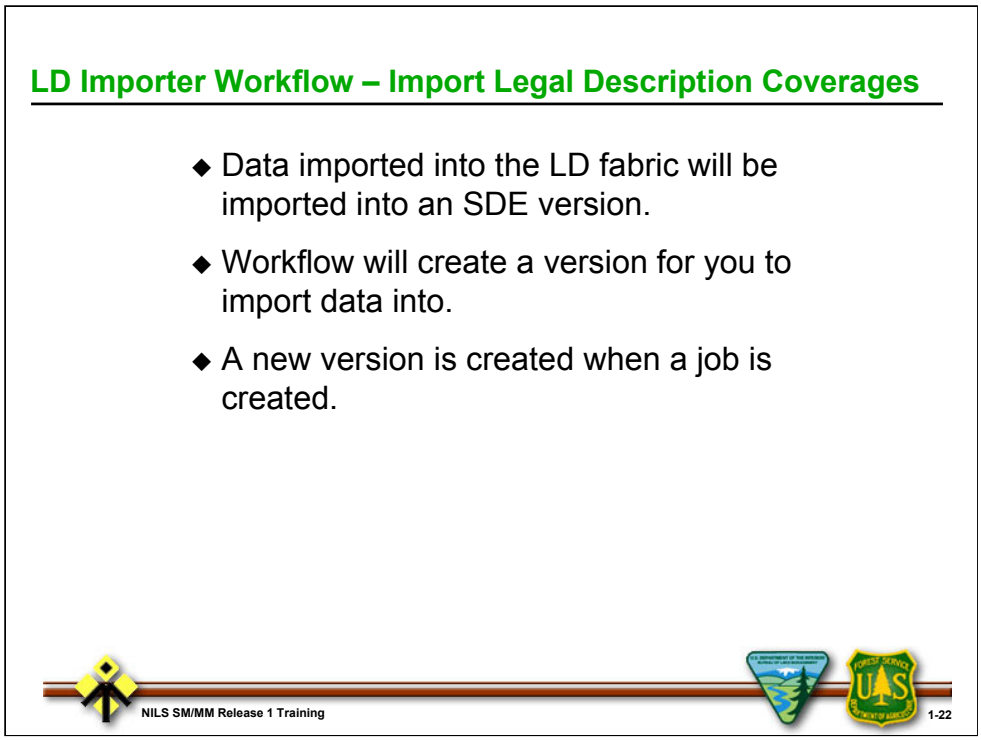
Microsoft Access - [FeatureClasses : Table]

File Edit View Insert Format Records Tools Window Help

FeatureClassID	DatasetID	InDataSetName	OutPutFeatureClass	WorkSpace	FeatureType	SubTypeField	WhereClause
133	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'N'
132	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'M'
131	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'R'
130	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'E'
129	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'TT'
128	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'GMD'
127	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'H'
126	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'I'
125	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'J'
124	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'K'
105	2	gcdb_nad83	MT_PLSSAliquot	arcinfo	region.ladesc	SubtypeCodeAliqDiv	SURVEY_TYPE = 'B'
122	2	gcdb_nad83	MT_SpecialSurDiv	arcinfo	region.ladesc	SubtypeCodeSpecSurvDiv	SURVEY_TYPE = 'J'
134	2	gcdb_nad83	MT_SpecialSurvey	arcinfo	region.ladesc	SubtypeCodeSpecSurv	SURVEY_TYPE = 'G'
120	2	gcdb_nad83	MT_SpecialSurDiv	arcinfo	region.ladesc	SubtypeCodeSpecSurvDiv	SURVEY_TYPE = 'GLL'
119	2	gcdb_nad83	MT_SpecialSurDiv	arcinfo	region.ladesc	SubtypeCodeSpecSurvDiv	SURVEY_TYPE = 'P'
118	2	gcdb_nad83	MT_SpecialSurDiv	arcinfo	region.ladesc	SubtypeCodeSpecSurvDiv	SURVEY_TYPE = 'K'
116	2	gcdb_nad83	MT_PLSSIrregDiv	arcinfo	region.ladesc	SubtypeCodeIrrDiv	SURVEY_TYPE = 'I'
115	2	gcdb_nad83	MT_PLSSIrregDiv	arcinfo	region.ladesc	SubtypeCodeIrrDiv	SURVEY_TYPE = 'O'

LD Importer Workflow

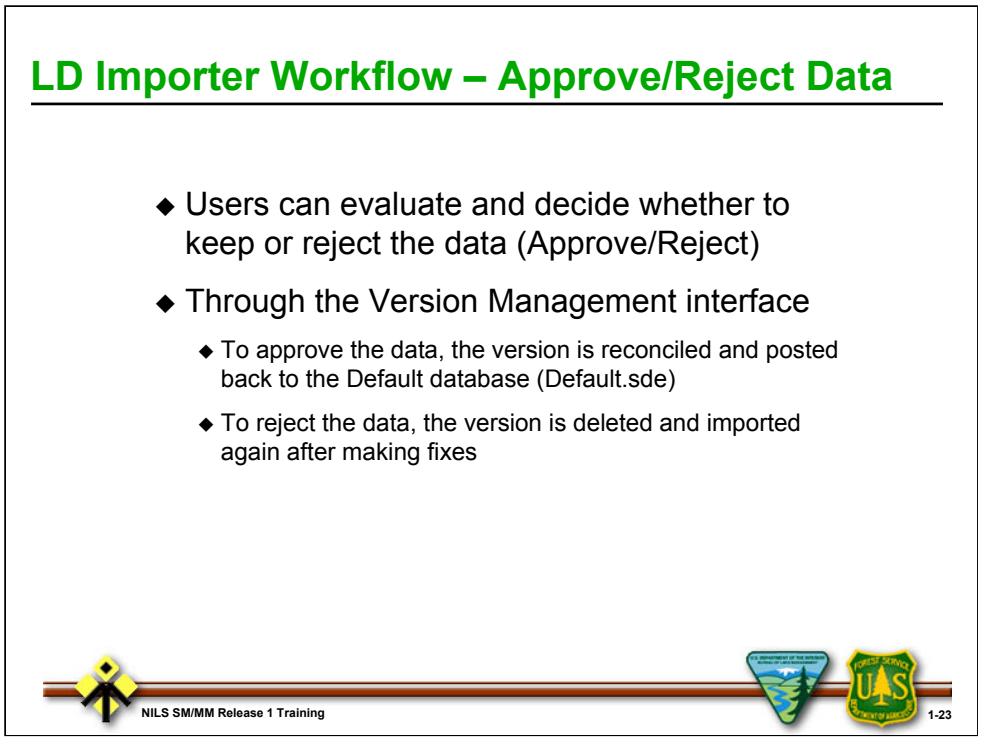
Import Legal Description Coverages.



LD Importer Workflow

Import Legal Description Coverages:

- Data imported into the LD fabric will be imported into an SDE version.
- Workflow will create a version for you to import data into.
- A new version is created when a job is created.



LD Importer Workflow

Approve/Reject Data:

•Users can evaluate and decide whether to keep or reject the data (Approve/Reject)

•Through the Version Management interface

- •To approve the data, the version is reconciled and posted back to the Default database (Default.sde).
- •To reject the data, the version is deleted and imported again after making fixes.

LD Importer Workflow – Main menu

- Web based interface
- User information
- Activities
- Administration

LD Importer Workflow

Main menu:

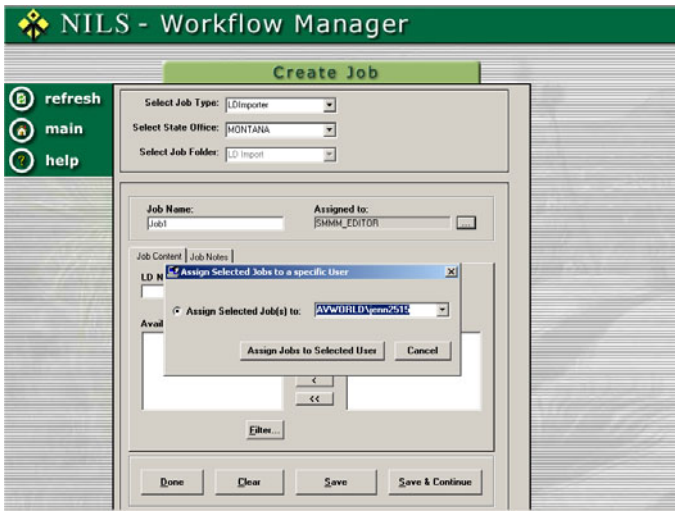
•Web based interface

•User information

•Activities

•Administration

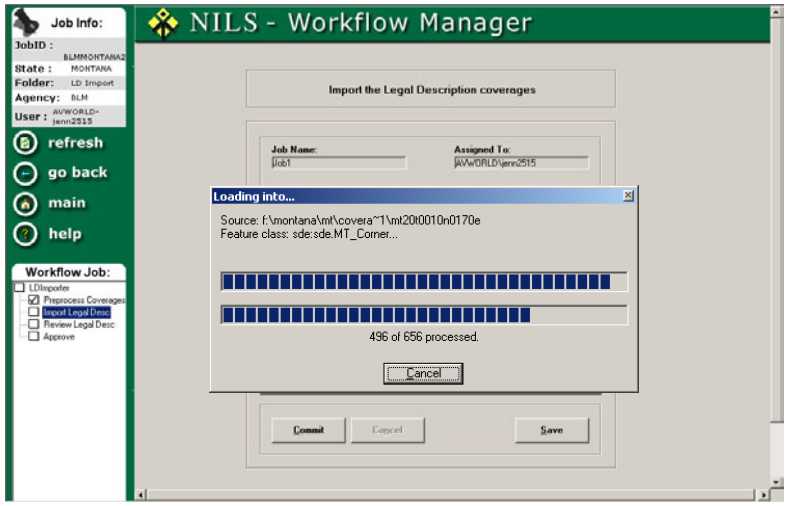
LD Import Workflow – Assign Job User



LD Import Workflow

Assign Job User

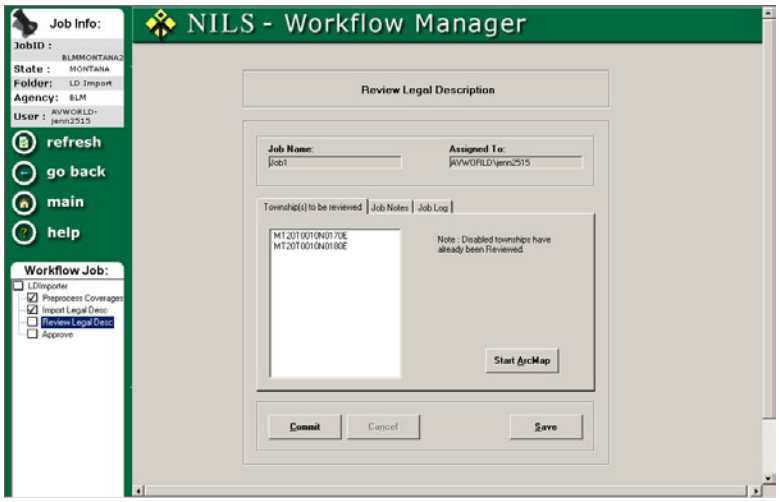
LD Import Workflow – Import LD Coverages



LD Import Workflow

Import LD Coverages

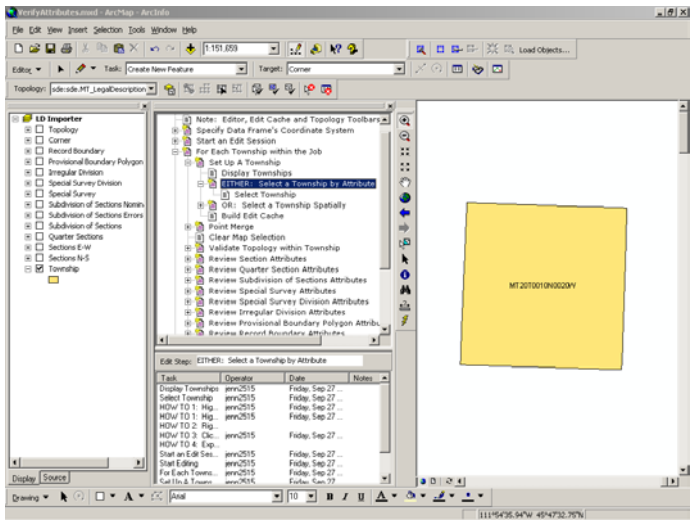
LD Import Workflow – Review Data



LD Import Workflow

Review Data

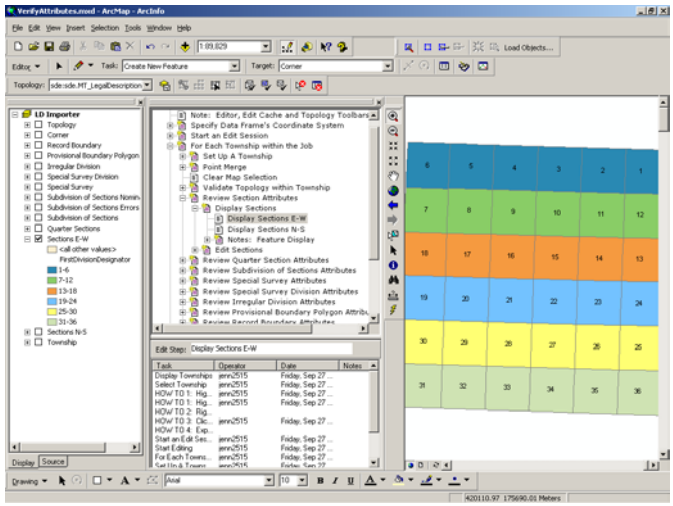
Task flow – Township labels



Task flow

Township labels

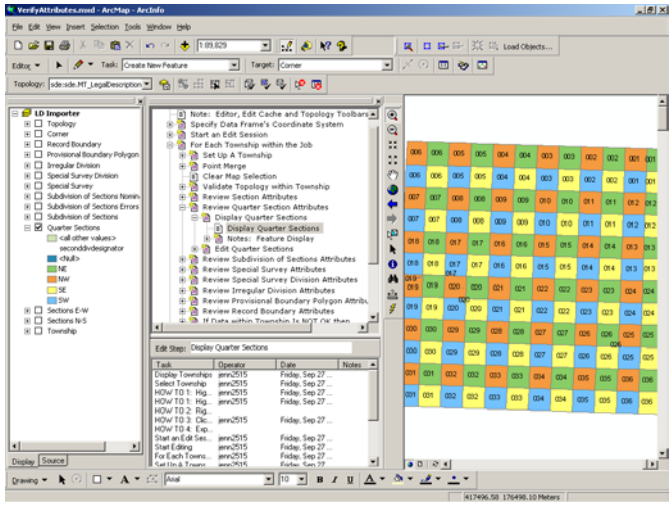
Task flow – Display Sections



Task flow

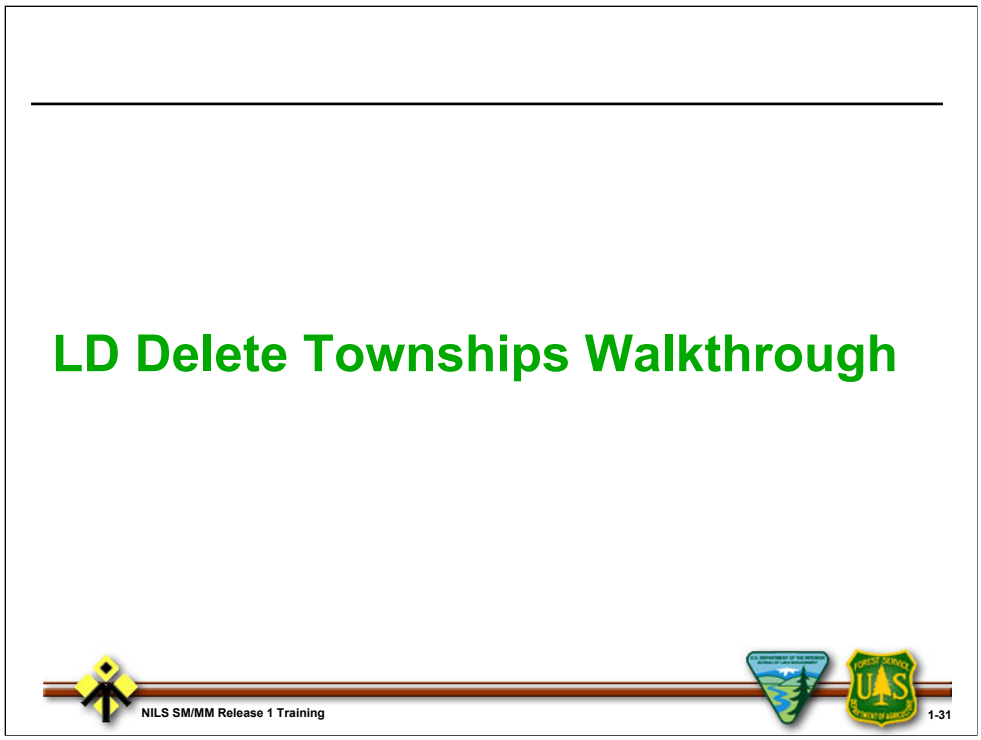
Display Sections

LD Task flow – Display Quarter Sections

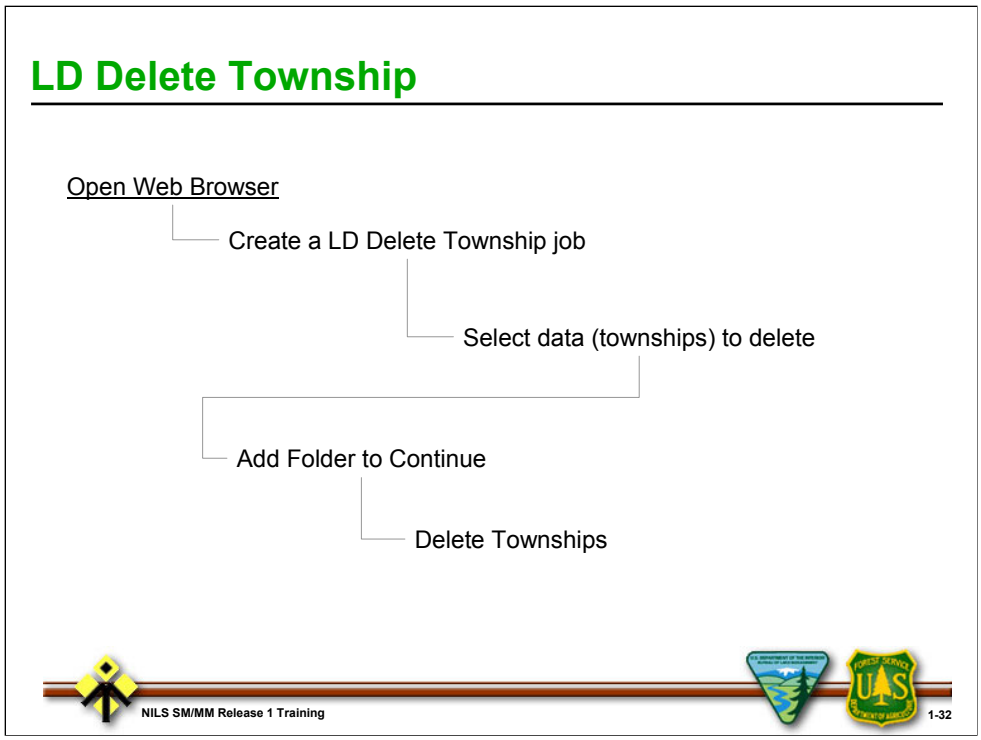


LD Task flow

Display Quarter Sections

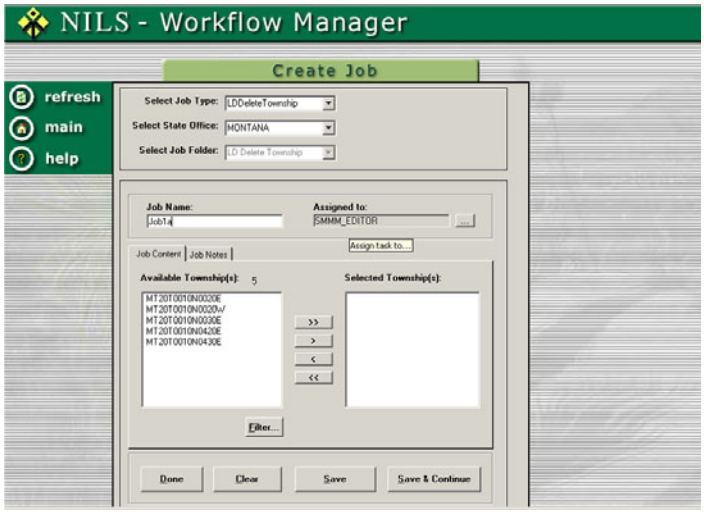


LD Delete Townships Walkthrough



LD Delete Township
•Open Web Browser
•Create a LD Delete Township job
•Select data (townships) to delete
•Add Folder to Continue
•Delete Townships

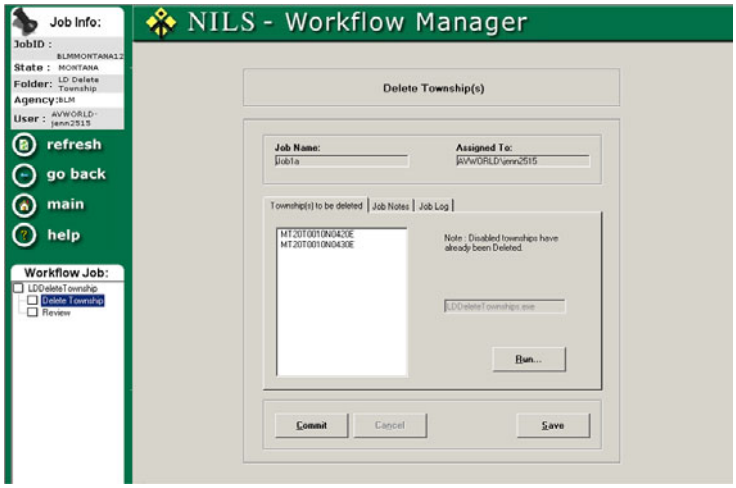
LD Delete Township - Select Township



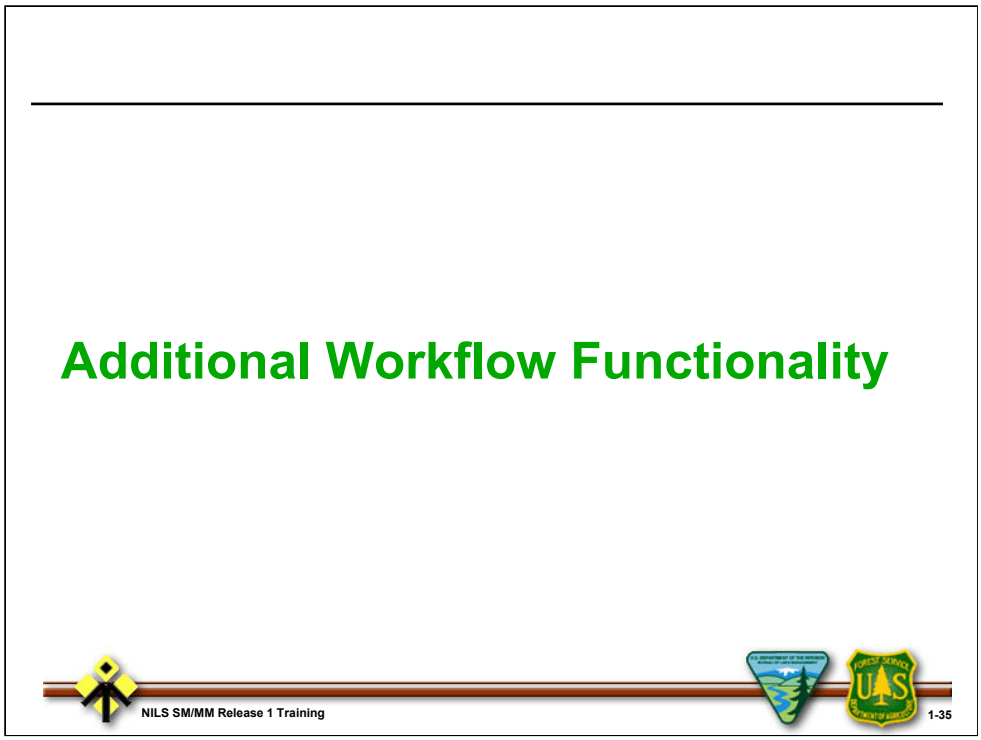
LD Delete Township

Select Township

Delete Township Step

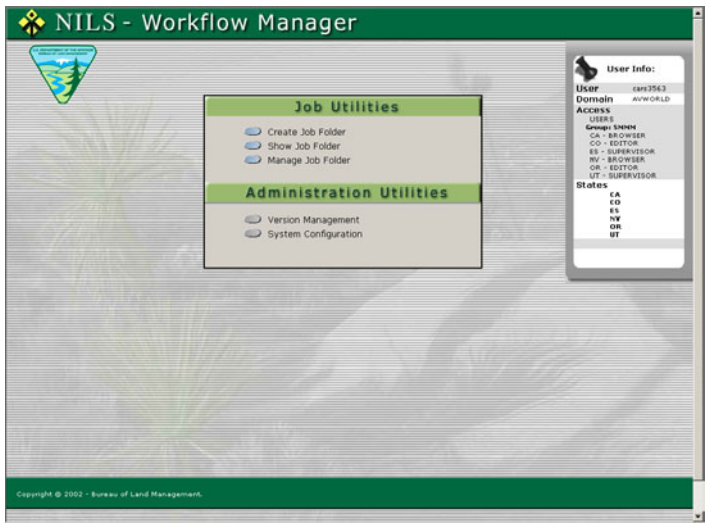


Delete Township Step



Additional Workflow Functionality

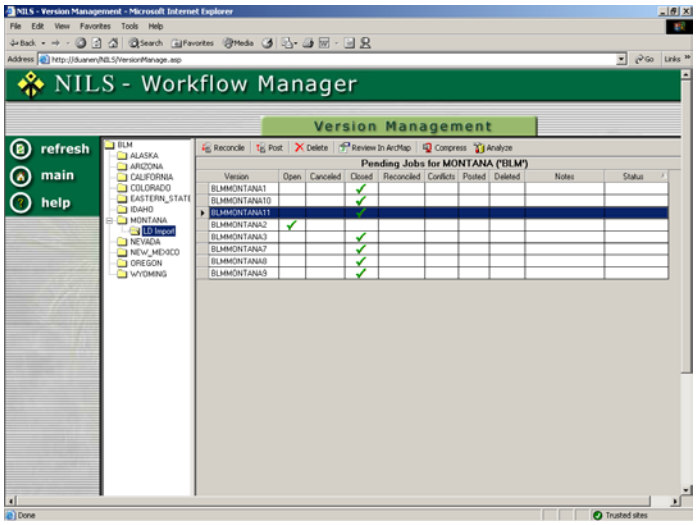
Workflow - Version Management



Workflow

Version Management

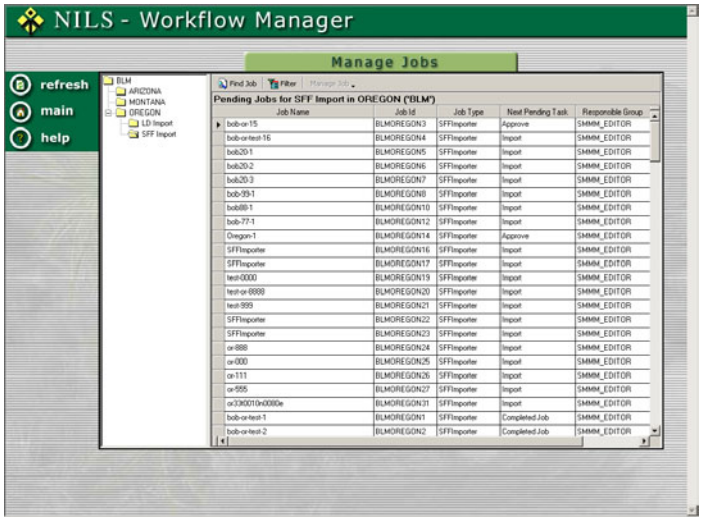
Workflow - Version Management



Workflow

Version Management

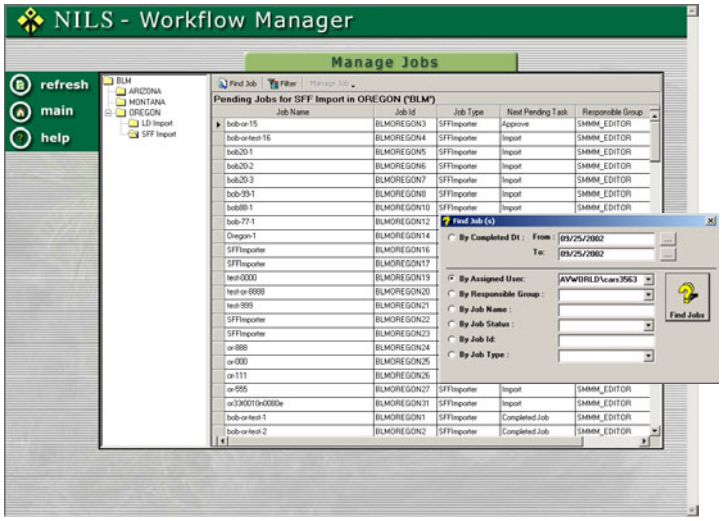
Workflow – Find Pending Jobs



Workflow

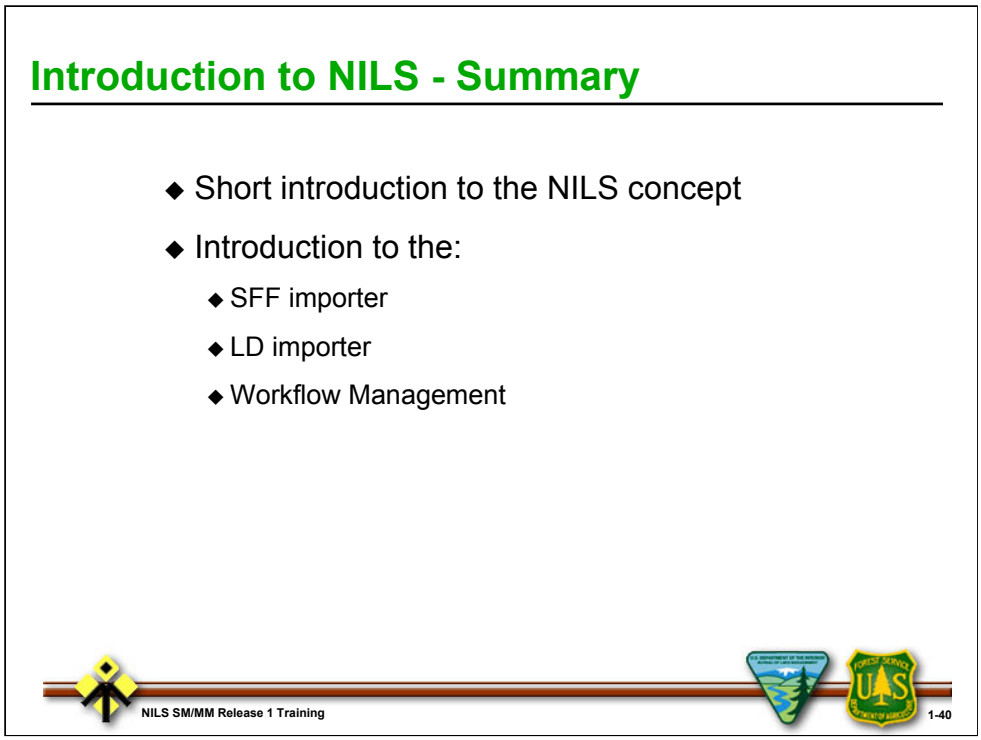
Find Pending Jobs

Workflow – Find Job(s)



Workflow

Find Job(s)



Introduction to NILS – Summary

•Short introduction to the NILS concept

•Introduction to the:

- •SFF importer
- •LD importer
- •Workflow Management